

Release notes for ENDF/B Development n-038\_Sr\_090  
evaluation

**ENDF**  
**B-VII**.dev

April 26, 2017

- checkr Warnings:

1. A previous error halted parsing of the current section  
*MAT=3843, MF= 1, MT=451 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=3843, MF= 1, MT=451
SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      216 TO      255
```

- checkr Errors:

1. A variable is outside the allowed ENDF range  
*MAT=3843, MF= 1, MT=451 (0): Variable range*

```
ERROR(S) FOUND IN MAT=3843, MF= 1, MT=451
MOD =      1 OUT OF RANGE      0 -      0      RECORD NUMBER      216
```

2. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 2, MT=151 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=3843, MF= 2, MT=151
SECTION 2/151 NOT IN DIRECTORY      RECORD NUMBER      257
```

3. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 1 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 1
SECTION 3/ 1 NOT IN DIRECTORY      RECORD NUMBER      341
```

4. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 2 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 2
SECTION 3/ 2 NOT IN DIRECTORY      RECORD NUMBER      375
```

5. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 4 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 4
SECTION 3/ 4 NOT IN DIRECTORY      RECORD NUMBER      401
```

6. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 16 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 16
SECTION 3/ 16 NOT IN DIRECTORY      RECORD NUMBER      414
```

7. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 17 (0): Directory (b)*

ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 17  
SECTION 3/ 17 NOT IN DIRECTORY RECORD NUMBER 426

8. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 22 (0): Directory (b)*

ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 22  
SECTION 3/ 22 NOT IN DIRECTORY RECORD NUMBER 434

9. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 28 (0): Directory (b)*

ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 28  
SECTION 3/ 28 NOT IN DIRECTORY RECORD NUMBER 447

10. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 32 (0): Directory (b)*

ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 32  
SECTION 3/ 32 NOT IN DIRECTORY RECORD NUMBER 457

11. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 51 (0): Directory (b)*

ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 51  
SECTION 3/ 51 NOT IN DIRECTORY RECORD NUMBER 463

12. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 52 (0): Directory (b)*

ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 52  
SECTION 3/ 52 NOT IN DIRECTORY RECORD NUMBER 476

13. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 53 (0): Directory (b)*

ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 53  
SECTION 3/ 53 NOT IN DIRECTORY RECORD NUMBER 487

14. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 54 (0): Directory (b)*

ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 54  
SECTION 3/ 54 NOT IN DIRECTORY RECORD NUMBER 498

15. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 55 (0): Directory (b)*

- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 55 | RECORD NUMBER | 508 |
| SECTION 3/ 55 NOT IN DIRECTORY            |               |     |
16. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT= 91 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=3843, MF= 3, MT= 91 | RECORD NUMBER | 518 |
| SECTION 3/ 91 NOT IN DIRECTORY            |               |     |
17. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT=102 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=3843, MF= 3, MT=102 | RECORD NUMBER | 527 |
| SECTION 3/102 NOT IN DIRECTORY            |               |     |
18. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT=103 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=3843, MF= 3, MT=103 | RECORD NUMBER | 549 |
| SECTION 3/103 NOT IN DIRECTORY            |               |     |
19. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT=104 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=3843, MF= 3, MT=104 | RECORD NUMBER | 562 |
| SECTION 3/104 NOT IN DIRECTORY            |               |     |
20. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT=105 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=3843, MF= 3, MT=105 | RECORD NUMBER | 573 |
| SECTION 3/105 NOT IN DIRECTORY            |               |     |
21. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 3, MT=107 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=3843, MF= 3, MT=107 | RECORD NUMBER | 583 |
| SECTION 3/107 NOT IN DIRECTORY            |               |     |
22. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 4, MT= 2 (0): Directory (b)*
- |  |               |     |
|--|---------------|-----|
| ERROR(S) FOUND IN MAT=3843, MF= 4, MT= 2 | RECORD NUMBER | 600 |
| SECTION 4/ 2 NOT IN DIRECTORY            |               |     |
23. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 4, MT= 16 (0): Directory (b)*

- |   |                   |
|---|-------------------|
| ERROR(S) FOUND IN MAT=3843, MF= 4, MT= 16 |                   |
| SECTION 4/ 16 NOT IN DIRECTORY            | RECORD NUMBER 755 |
24. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 4, MT= 17 (0): Directory (b)*
- |   |                   |
|---|-------------------|
| ERROR(S) FOUND IN MAT=3843, MF= 4, MT= 17 |                   |
| SECTION 4/ 17 NOT IN DIRECTORY            | RECORD NUMBER 766 |
25. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 4, MT= 22 (0): Directory (b)*
- |   |                   |
|---|-------------------|
| ERROR(S) FOUND IN MAT=3843, MF= 4, MT= 22 |                   |
| SECTION 4/ 22 NOT IN DIRECTORY            | RECORD NUMBER 777 |
26. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 4, MT= 28 (0): Directory (b)*
- |   |                   |
|---|-------------------|
| ERROR(S) FOUND IN MAT=3843, MF= 4, MT= 28 |                   |
| SECTION 4/ 28 NOT IN DIRECTORY            | RECORD NUMBER 788 |
27. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 4, MT= 32 (0): Directory (b)*
- |   |                   |
|---|-------------------|
| ERROR(S) FOUND IN MAT=3843, MF= 4, MT= 32 |                   |
| SECTION 4/ 32 NOT IN DIRECTORY            | RECORD NUMBER 799 |
28. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 4, MT= 51 (0): Directory (b)*
- |   |                   |
|---|-------------------|
| ERROR(S) FOUND IN MAT=3843, MF= 4, MT= 51 |                   |
| SECTION 4/ 51 NOT IN DIRECTORY            | RECORD NUMBER 810 |
29. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 4, MT= 52 (0): Directory (b)*
- |   |                   |
|---|-------------------|
| ERROR(S) FOUND IN MAT=3843, MF= 4, MT= 52 |                   |
| SECTION 4/ 52 NOT IN DIRECTORY            | RECORD NUMBER 835 |
30. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 4, MT= 53 (0): Directory (b)*
- |   |                   |
|---|-------------------|
| ERROR(S) FOUND IN MAT=3843, MF= 4, MT= 53 |                   |
| SECTION 4/ 53 NOT IN DIRECTORY            | RECORD NUMBER 858 |
31. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 4, MT= 54 (0): Directory (b)*

- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=3843, MF= 4, MT= 54 | RECORD NUMBER | 881 |
| SECTION 4/ 54 NOT IN DIRECTORY            |               |     |
32. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 4, MT= 55 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=3843, MF= 4, MT= 55 | RECORD NUMBER | 904 |
| SECTION 4/ 55 NOT IN DIRECTORY            |               |     |
33. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 4, MT= 91 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=3843, MF= 4, MT= 91 | RECORD NUMBER | 927 |
| SECTION 4/ 91 NOT IN DIRECTORY            |               |     |
34. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 5, MT= 16 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=3843, MF= 5, MT= 16 | RECORD NUMBER | 951 |
| SECTION 5/ 16 NOT IN DIRECTORY            |               |     |
35. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 5, MT= 17 (0): Directory (b)*
- |   |               |      |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=3843, MF= 5, MT= 17 | RECORD NUMBER | 1007 |
| SECTION 5/ 17 NOT IN DIRECTORY            |               |      |
36. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 5, MT= 22 (0): Directory (b)*
- |   |               |      |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=3843, MF= 5, MT= 22 | RECORD NUMBER | 1043 |
| SECTION 5/ 22 NOT IN DIRECTORY            |               |      |
37. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 5, MT= 28 (0): Directory (b)*
- |   |               |      |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=3843, MF= 5, MT= 28 | RECORD NUMBER | 1199 |
| SECTION 5/ 28 NOT IN DIRECTORY            |               |      |
38. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 5, MT= 32 (0): Directory (b)*
- |   |               |      |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=3843, MF= 5, MT= 32 | RECORD NUMBER | 1264 |
| SECTION 5/ 32 NOT IN DIRECTORY            |               |      |
39. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=3843, MF= 5, MT= 91 (0): Directory (b)*

• psyche Warnings:

1. Non-threshold reaction with Q value differing from PSYCHE's expectations  
*FILE 3 / SECTION 107 / THE CALCULATED Q 3.14080E+05 DISSAGREES WITH THE GIVEN Q 4.26505E+05 (0): Iffy Q*

```
FILE 3
SECTION 107
THE CALCULATED Q 3.14080E+05 DISSAGREES WITH THE GIVEN Q 4.26505E+05
```

• recent Warnings:

1. Fission widths given for non-fissile nucleus, but are zero  
*0: Fission?*

```
Calculate Cross Sections from Resonance Parameters (RECENT 2015-1)
=====
Retrieval Criteria----- MAT
File 2 Minimum Cross Section- 1.0000E-10 (Standard Option)
Reactions with No Background- Output (Resonance Contribution)
... [258 more lines]
```

• fudge-4.0 Warnings:

1. Cross section does not match sum of linked reaction cross sections  
*crossSectionSum label 0: total (Error # 0): CS Sum.*

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.85%

2. Cross section does not match sum of linked reaction cross sections  
*crossSectionSum label 1: (z,n) (Error # 0): CS Sum.*

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.12%

• fudge-4.0 Errors:

1. Calculated and tabulated Q values disagree.  
*reaction label 7: n[multiplicity:'2'] + Sr89 (Error # 0): Q mismatch*

WARNING: Calculated and tabulated Q-values disagree: -7791817.562911987 eV vs -7.8078e6 eV!

2. Calculated and tabulated Q values disagree.  
*reaction label 8: n[multiplicity:'3'] + Sr88 (Error # 0): Q mismatch*

WARNING: Calculated and tabulated Q-values disagree: -14150535.68078613 eV vs -1.41763e7 eV!

3. Calculated and tabulated Q values disagree.  
*reaction label 10: n + H2 + Rb88 (Error # 0): Q mismatch*

WARNING: Calculated and tabulated Q-values disagree: -16456365.70426941 eV vs -1.63923e7 eV!

4. Calculated and tabulated Q values disagree.  
*reaction label 11: Sr91 + gamma (Error # 0): Q mismatch*

WARNING: Calculated and tabulated Q-values disagree: 5786954.451217651 eV vs 5802690. eV!

5. Energy range of data set does not match cross section range  
*reaction label 12: n + He4 + Kr86 / Product: n / Distribution: / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (5150740.0 -> 20000000.0) vs (5150750.0 -> 20000000.0)

6. Calculated and tabulated Q values disagree.  
*reaction label 13: H1 + Rb90\_s (Error # 0): Q mismatch*

WARNING: Calculated and tabulated Q-values disagree: -5785583.9324646 eV vs -5582230. eV!

7. Calculated and tabulated Q values disagree.  
*reaction label 14: H2 + Rb89\_s (Error # 0): Q mismatch*

WARNING: Calculated and tabulated Q-values disagree: -9281544.227478027 eV vs -9201220. eV!

• njoy2012 Warnings:

1. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!  
*group...compute self-shielded group-averaged cross-sections (0): GROUPR/conver (0)*

---message from conver---cannot do complete particle production for mt= 16  
only mf4/mf5 provided

2. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!  
*group...compute self-shielded group-averaged cross-sections (1): GROUPR/conver (0)*

---message from conver---cannot do complete particle production for mt= 17  
only mf4/mf5 provided

3. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!  
*group...compute self-shielded group-averaged cross-sections (2): GROUPR/conver (0)*

---message from conver---cannot do complete particle production for mt= 22  
only mf4/mf5 provided

4. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!  
*group...compute self-shielded group-averaged cross-sections (3): GROUPR/conver (0)*



---message from conver---cannot do complete particle production for mt= 28  
only mf4/mf5 provided

5. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!  
*grouppr...compute self-shielded group-averaged cross-sections (4): GROUPE/conver (0)*

---message from conver---cannot do complete particle production for mt= 32  
only mf4/mf5 provided

6. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!  
*grouppr...compute self-shielded group-averaged cross-sections (5): GROUPE/conver (0)*

---message from conver---cannot do complete particle production for mt= 91  
only mf4/mf5 provided